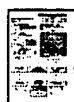


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US5917912: System and methods for secure transaction management and electronic rights protection

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Field of Search: **380/4,25 395/186,683,684**

Legal Status:  [Show legal status actions](#)

Abstract:

Patent Plaques

The present invention provides systems and methods for secure transaction management and electronic rights protection. Electronic appliances such as computers equipped in accordance with the present invention help to ensure that information is accessed and used only in authorized ways, and maintain the integrity, availability, and/or confidentiality of the information. Such electronic appliances provide a distributed virtual distribution environment (VDE) that may enforce a secure chain of handling and control, for example, to control and/or meter or otherwise monitor use of electronically stored or disseminated information. Such a virtual distribution environment may be used to protect rights of various participants in electronic commerce and other electronic or electronic-facilitated transactions. Distributed and other operating systems, environments and architectures, such as, for example, those using tamper-resistant hardware-based processors, may establish security at each node. These techniques may be used to support an all-electronic information distribution, for example, utilizing the "electronic highway."

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Firm:
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Barron, Jr.; Gilberto;



Related Applications:

Application Number	ApplDate	Patent	Issued	Title
US1995000388107	1995-02-13			

Family: Show known family members



U.S. References: Show the 5 patents that reference this one

Patent	Issued	Inventor(s)	Applicant(s)	Title
US3573747	4 /1971	Adams et al.	Institutional Networks Corporation	INSTINET COMMUNICATION SYSTEM FOR EFFECTUATING THE SALE OR EXCHANGE OF FUNGIBLE PROPERTIES BETWEEN SUBSCRIBERS
US3609697	9 /1971	Blevins	International Business Machines Corporation	PROGRAM SECURITY DEVICE
US3796830	3 /1974	Smith	International Business Machines Corporation	RECIRCULATING BLOCK CIPHER CRYPTOGRAPHIC SYSTEM
US3798359	3 /1974	Feistel	International Business Machines Corporation	BLOCK CIPHER CRYPTOGRAPHIC SYSTEM
US3798360	3 /1974	Feistel	International Business Machines Corporation	STEP CODE CIPHERING SYSTEM
US3798605	3 /1974	Feistel	International Business Machines Corporation	CENTRALIZED VERIFICATION SYSTEM
US3806882	4 /1974	Clarke		SECURITY FOR COMPUTER SYSTEMS
US3829833	8 /1974	Freeny, Jr.	Information Identification Company, Inc.	CODE ELEMENT IDENTIFICATION METHOD AND APPARATUS
US3906448	9 /1975	Henriques	RCA Corporation	Fault detection facilitating means for card reader of identification card reading system
US3911397	10 /1975	Freeny, Jr.	Information Identification Inc.	Access control assembly
US3924065	12 /1975	Freeny, Jr.	Information Identification, Inc.	Coherent, fixed BAUD rate FSK communication method and apparatus
US3931504	1 /1976	Jacoby	Basic Computing Arts, Inc.	Electronic data processing security system and method
US3946220	3 /1976	Brobeck et al.	Transactron, Inc.	Point-of-sale system and apparatus
US3956615	5 /1976	Anderson et al.	IBM Corporation	Transaction execution system with secure data storage and communications
US3958081	5 /1976	Ehram et al.	International Business Machines	Block cipher system for data security

			Corporation	data security
<u>US3970992</u>	7 /1976	Boothroyd et al.	IBM Corporation	<u>Transaction terminal with unlimited range of functions</u>
<u>US4048619</u>	9 /1977	Forman, Jr. et al.	Digital Data Inc.	<u>Secure two channel SCA broadcasting system</u>
<u>US4071911</u>	1 /1978	Mazur	Continental Can Co. Inc.	<u>Machine control system with machine serializing and safety circuits</u>
<u>US4112421</u>	9 /1978	Freeny, Jr.	Information Identification Company, Inc.	<u>Method and apparatus for automatically monitoring objects</u>
<u>US4120030</u>	10 /1978	Johnstone	Kearney & Trecker Corporation	<u>Computer software security system</u>
<u>US4163280</u>	7 /1979	Mori et al.	Tokyo Shibaura Electric Co., Ltd.	<u>Address management system</u>
<u>US4168396</u>	9 /1979	Best		<u>Microprocessor for executing enciphered programs</u>
<u>US4196310</u>	4 /1980	Forman et al.	Digital Data, Inc.	<u>Secure SCA broadcasting system including subscriber actuated portable receiving terminals</u>
<u>US4200913</u>	4 /1980	Kuhar et al.	International Business Machines Corporation	<u>Operator controlled programmable keyboard apparatus</u>
<u>US4209787</u>	6 /1980	Freeny, Jr.	Gould Inc.	<u>Method for monitoring the location of monitored objects</u>
<u>US4217588</u>	8 /1980	Freeny, Jr.	Information Identification Company, Inc.	<u>Object monitoring method and apparatus</u>
<u>US4220991</u>	9 /1980	Hamano et al.	Tokyo Electric Co., Ltd.	<u>Electronic cash register with removable memory packs for cashier identification</u>
<u>US4232193</u>	11 /1980	Gerard	The Marconi Company Limited	<u>Message signal scrambling apparatus</u>
<u>US4232317</u>	11 /1980	Freeny, Jr.		<u>Quantized hyperbolic and inverse hyperbolic object location system</u>
<u>US4236217</u>	11 /1980	Kennedy		<u>Energy utilization or consumption recording arrangement</u>
<u>US4253157</u>	2 /1981	Kirschner et al.	Alpex Computer Corp.	<u>Data access system wherein subscriber terminals gain access to a data bank by telephone lines</u>
<u>US4262329</u>	4 /1981	Bright et al.	Computation Planning, Inc.	<u>Security system for data processing</u>
<u>US4265371</u>	5 /1981	Desai et al.	Trafalgar Industries Inc.	<u>Foodstuff vending apparatus employing improved solid-state type control apparatus</u>
<u>US4270182</u>	5 /1981	Asija		<u>Automated information input, storage, and retrieval system</u>
<u>US4278837</u>	7 /1981	Best		<u>Crypto microprocessor for executing enciphered programs</u>

				programs
US4305131	12 /1981	Best		Dialog between TV movies and human viewers
US4306289	12 /1981	Lumley	Western Electric Company, Inc.	Digital computer having code conversion apparatus for an encrypted program
US4309569	1 /1982	Merkle	The Board of Trustees of the Leland Stanford Junior University	Method of providing digital signatures
US4319079	3 /1982	Best		Crypto microprocessor using block cipher
US4323921	4 /1982	Guillou	Etablissement Public de Diffusion dit "Telediffusion de France"	System for transmitting information provided with means for controlling access to the information transmitted
US4328544	5 /1982	Baldwin et al.	International Business Machines Corporation	Electronic point-of-sale system using direct-access storage
US4337483	6 /1982	Guillou	Etablissement Public de Diffusion dit "Telediffusion de France"	Text video-transmission system provided with means for controlling access to the information
US4361877	11 /1982	Dyer et al.	Sangamo Weston, Inc.	Billing recorder with non-volatile solid state memory
US4375579	3 /1983	Davida et al.	Wisconsin Alumni Research Foundation	Database encryption and decryption circuit and method using subkeys
US4433207	2 /1984	Best		Cryptographic decoder for computer programs
US4434464	2 /1984	Suzuki et al.	Hitachi, Ltd.	Memory protection system for effecting alteration of protection information without intervention of control program
US4442486	4 /1984	Mayer	U.S. Philips Corporation	Protected programmable apparatus
US4446519	5 /1984	Thomas	Corban International, Ltd.	Method and apparatus for providing security for computer software
US4454594	6 /1984	Heffron et al.	U.S. Philips Corporation	Method and apparatus to secure proprietary operation of computer equipment
US4458315	7 /1984	Uchenick	Penta, Inc.	Apparatus and method for preventing unauthorized use of computer programs
US4462076	7 /1984	Smith, III	Smith Engineering	Video game cartridge recognition and security system
US4462078	7 /1984	Ross		Computer program protection method
US4465901	8 /1984	Best		Crypto microprocessor that executes enciphered programs
US4471163	9 /1984	Donald et al.		Software protection system
US4484217	11 /1984	Block et al.	Telease, Inc.	Method and system for remote reporting, particularly for pay television billing
				Selectable format

<u>US4494156</u>	1 /1985	Kadison et al.	Media Systems Technology	Selectable format computer disk copier machine
<u>US4513174</u>	4 /1985	Herman	Standard Microsystems Corporation	Software security method using partial fabrication of proprietary control word decoders and microinstruction memories
<u>US4528588</u>	7 /1985	Lofberg		Method and apparatus for marking the information content of an information carrying signal
<u>US4528643</u>	7 /1985	Freeny, Jr.	FPDC, Inc.	System for reproducing information in material objects at a point of sale location
<u>US4553252</u>	11 /1985	Egendorf		Counting computer software cartridge
<u>US4558176</u>	12 /1985	Matyas et al.		Computer systems to inhibit unauthorized copying, unauthorized usage, and automated cracking of protected software
<u>US4558413</u>	12 /1985	Schmidt et al.	Xerox Corporation	Software version management system
<u>US4562306</u>	12 /1985	Chou et al.		Method and apparatus for protecting computer software utilizing an active coded hardware device
<u>US4562495</u>	12 /1985	Bond et al.	Verbatim Corporation	Multiple system disk
<u>US4577289</u>	3 /1986	Comerford et al.	International Business Machines Corporation	Hardware key-on-disk system for copy-protecting magnetic storage media
<u>US4584641</u>	4 /1986	Guglielmino		Copyprotecting system for software protection
<u>US4588991</u>	5 /1986	Atalla	Atalla Corporation	File access security method and means
<u>US4589064</u>	5 /1986	Chiba et al.	Fujitsu Limited	System for controlling key storage unit which controls access to main storage
<u>US4593353</u>	6 /1986	Pickholtz	Telecommunications Associates, Inc.	Software protection method and apparatus
<u>US4593376</u>	6 /1986	Volk		System for vending program cartridges which have circuitry for inhibiting program usage after preset time interval expires
<u>US4595950</u>	6 /1986	Lofberg		Method and apparatus for marking the information content of an information carrying signal
<u>US4597058</u>	6 /1986	Izumi et al.	Romox, Inc.	Cartridge programming system
<u>US4634807</u>	1 /1987	Chorley et al.	National Research Development Corp.	Software protection device
<u>US4644493</u>	2 /1987	Chandra et al.	International Business Machines Corporation	Implementing a shared higher level of privilege on personal computers for copy protection of software
				Anti-piracy system using separate storage and

<u>US4646234</u>	2 /1987	Tolman et al.	Brigham Young University	<u>separate storage and alternate execution of selected proprietary and public portions of computer programs</u>
<u>US4652990</u>	3 /1987	Pailen et al.	Remote Systems, Inc.	<u>Protected software access control apparatus and method</u>
<u>US4658093</u>	4 /1987	Hellman		<u>Software distribution system</u>
<u>US4670857</u>	6 /1987	Rackman		<u>Cartridge-controlled system whose use is limited to authorized cartridges</u>
<u>US4672572</u>	6 /1987	Alsberg	Gould Inc.	<u>Protector system for computer access and use</u>
<u>US4677434</u>	6 /1987	Fascenda	Lotus Information Network Corp.	<u>Access control system for transmitting data from a central station to a plurality of receiving stations and method therefor</u>
<u>US4680731</u>	7 /1987	Izumi et al.	Romox Incorporated	<u>Reprogrammable cartridge memory with built-in identification circuitry and programming method</u>
<u>US4683553</u>	7 /1987	Mollier	Cii Honeywell Bull (Societe Anonyme)	<u>Method and device for protecting software delivered to a user by a supplier</u>
<u>US4685056</u>	8 /1987	Barnsdale et al.	Pueblo Technologies, Inc.	<u>Computer security device</u>
<u>US4688169</u>	8 /1987	Joshi		<u>Computer software security system</u>
<u>US4691350</u>	9 /1987	Kleijne et al.	NCR Corporation	<u>Security device for stored sensitive data</u>
<u>US4696034</u>	9 /1987	Wiedemer	Signal Security Technologies	<u>High security pay television system</u>
<u>US4701846</u>	10 /1987	Ikeda et al.	Panafacom Limited	<u>Computer system capable of interruption using special protection code for write interruption region of memory device</u>
<u>US4712238</u>	12 /1987	Gilhousen et al.	M/A-COM Government Systems, Inc.	<u>Selective-subscription descrambling</u>
<u>US4713753</u>	12 /1987	Boebert et al.	Honeywell Inc.	<u>Secure data processing system architecture with format control</u>
<u>US4740890</u>	4 /1988	William	Software Concepts, Inc.	<u>Software protection system with trial period usage code and unlimited use unlocking code both recorded on program storage media</u>
<u>US4747139</u>	5 /1988	Taaffe		<u>Software security method and systems</u>
<u>US4757533</u>	7 /1988	Allen et al.	Computer Security Corporation	<u>Security system for microcomputers</u>
<u>US4768087</u>	8 /1988	Taub et al.	National Information Utilities Corporation	<u>Education utility</u>
<u>US4791565</u>	12 /1988	Dunham et al.	Effective Security Systems, Inc.	<u>Apparatus for controlling the use of computer software</u>

				software
US4796181	1 /1989	Wiedemer		Billing system for computer software
US4799156	1 /1989	Shavit et al.	Strategic Processing Corporation	Interactive market management system
US4807288	2 /1989	Ugon et al.	C.I.I. Honeywell Bull	Microprocessor intended particularly for executing the calculation algorithms of a public code encoding system
US4817140	3 /1989	Chandra et al.	International Business Machines Corp.	Software protection system using a single-key cryptosystem, a hardware-based authorization system and a secure coprocessor
US4823264	4 /1989	Deming		Electronic funds transfer system
US4827508	5 /1989	Shear	Personal Library Software, Inc.	Database usage metering and protection system and method
US4858121	8 /1989	Barber et al.	Medical Payment Systems, Incorporated	Medical payment system
US4864494	9 /1989	Kobus	Computerized Data Ssystems for Mfg., Inc.	Software usage authorization system with key for decrypting/re-encrypting/re-transmitting moving target security codes from protected software
US4868877	9 /1989	Fischer		Public key/signature cryptosystem with enhanced digital signature certification
US4903296	2 /1990	Chandra et al.	International Business Machines Corporation	Implementing a shared higher level of privilege on personal computers for copy protection of software
US4924378	5 /1990	Hershey et al.	Prime Computer, Inc.	License mangagement system and license storage key
US4930073	5 /1990	Cina, Jr.	International Business Machines Corporation	Method to prevent use of incorrect program version in a computer system
US4949187	8 /1990	Cohen		Video communications system having a remotely controlled central source of video and audio data
US4977594	12 /1990	Shear	Electronic Publishing Resources, Inc.	Database usage metering and protection system and method
US4999806	3 /1991	Chernow et al.		Software distribution system
US5001752	3 /1991	Fischer		Public/key date-time notary facility
US5005122	4 /1991	Griffin et al.	Digital Equipment Corporation	Arrangement with cooperating management server node and network service node
US5005200	4 /1991	Fisher		Public key/signature cryptosystem with enhanced digital signature

US5005200	4 /1991	Fisher		<u>enhanced digital signature certification</u>
US5010571	4 /1991	Katznelson	Titan Linkabit Corporation	<u>Metering retrieval of encrypted data stored in customer data retrieval terminal</u>
US5023907	6 /1991	Johnson et al.	Apollo Computer, Inc.	<u>Network license server</u>
US5047928	9 /1991	Wiedemer		<u>Billing system for computer software</u>
US5048085	9 /1991	Abraham et al.	International Business Machines Corporation	<u>Transaction system security method and apparatus</u>
US5050213	9 /1991	Shear	Electronic Publishing Resources, Inc.	<u>Database usage metering and protection system and method</u>
US5091966	2 /1992	Bloomberg et al.	Xerox Corporation	<u>Adaptive scaling for decoding spatially periodic self-clocking glyph shape codes</u>
US5103392	4 /1992	Mori	Fujitsu Limited	<u>System for storing history of use of programs including user credit data and having access by the proprietor</u>
US5103476	4 /1992	Waite et al.		<u>Secure system for activating personal computer software at remote locations</u>
US5111390	5 /1992	Ketcham	Unisys Corporation	<u>Software security system for maintaining integrity of compiled object code by restricting users ability to define compilers</u>
US5119493	6 /1992	Janis et al.	International Business Machines Corporation	<u>System for recording at least one selected activity from a selected resource object within a distributed data processing system</u>
US5128525	7 /1992	Stearns et al.	Xerox Corporation	<u>Convolution filtering for decoding self-clocking glyph shape codes</u>
US5136643	8 /1992	Fischer		<u>Public/key date-time notary facility</u>
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US5136716	8 /1992	Harvey et al.	Digital Equipment Corporation	<u>Session control in network for digital data processing system which supports multiple transfer protocols</u>
US5146575	9 /1992	Nolan, Jr.	International Business Machines Corp.	<u>Implementing privilege on microprocessor systems for use in software asset protection</u>
US5148481	9 /1992	Abraham et al.	International Business Machines Corporation	<u>Transaction system security method and apparatus</u>
US5155680	10 /1992	Wiedemer	Signal Security Technologies	<u>Billing system for computing software</u>

US5155680	10 /1992	Wiedemer	Technologies	computing software
US5168147	12 /1992	Bloomberg	Xerox Corporation	Binary image processing for decoding self-clocking glyph shape codes
US5185717	2 /1993	Mori		Tamper resistant module having logical elements arranged in multiple layers on the outer surface of a substrate to protect stored information
US5201046	4 /1993	Goldberg et al.	Xidak, Inc.	Relational database management system and method for storing, retrieving and modifying directed graph data structures
US5201047	4 /1993	Maki et al.	International Business Machines Corporation	Attribute-based classification and retrieval system
US5208748	5 /1993	Flores et al.	Action Technologies, Inc.	Method and apparatus for structuring and managing human communications by explicitly defining the types of communications permitted between participants
US5214702	5 /1993	Fischer		Public key/signature cryptosystem with enhanced digital signature certification
US5216603	6 /1993	Flores et al.	Action Technologies, Inc.	Method and apparatus for structuring and managing human communications by explicitly defining the types of communications permitted between participants
US5221833	6 /1993	Hecht	Xerox Corporation	Methods and means for reducing bit error rates in reading self-clocking glyph codes
US5222134	6 /1993	Waite et al.	Tau Systems Corporation	Secure system for activating personal computer software at remote locations
US5224160	6 /1993	Paulini et al.	Siemens Nixdorf Informationssysteme AG	Process for securing and for checking the integrity of the secured programs
US5224163	6 /1993	Gasser et al.	Digital Equipment Corporation	Method for delegating authorization from one entity to another through the use of session encryption keys
US5235642	8 /1993	Wobber et al.	Digital Equipment Corporation	Access control subsystem and method for distributed computer system using locally cached authentication credentials
US5245165	9 /1993	Zhang	Xerox Corporation	Self-clocking glyph code for encoding dual bit digital values robustly
US5260999	11 /1993	Wyman	Digital Equipment Corporation	Filters in license management system
				Method and system for

<u>US5263158</u>	11 /1993	Janis	International Business Machines Corporation	<u>Method and system for variable authority level user access control in a distributed data processing system having multiple resource manager</u>
<u>US5265164</u>	11 /1993	Matyas et al.	International Business Machines Corporation	<u>Cryptographic facility environment backup/restore and replication in a public key cryptosystem</u>
<u>US5276735</u>	1 /1994	Boebert et al.	Secure Computing Corporation	<u>Data enclave and trusted path system</u>
<u>US5280479</u>	1 /1994	Mary	Matra Communication	<u>Device for insertion of digital packets in a transmission channel</u>
<u>US5285494</u>	2 /1994	Sprecher et al.	PacTel Corporation	<u>Network management system</u>
<u>US5301231</u>	4 /1994	Abraham et al.	International Business Machines Corporation	<u>User defined function facility</u>
<u>US5311591</u>	5 /1994	Fischer		<u>Computer system security method and apparatus for creating and using program authorization information data structures</u>
<u>US5319705</u>	6 /1994	Halter et al.	International Business Machines Corporation	<u>Method and system for multimedia access control enablement</u>
<u>US5337360</u>	8 /1994	Fischer		<u>Method and apparatus for creating, supporting, and using travelling programs</u>
<u>US5341429</u>	8 /1994	Stringer et al.	TestDrive Corporation	<u>Transformation of ephemeral material</u>
<u>US5343527</u>	8 /1994	Moore	International Business Machines Corporation	<u>Hybrid encryption method and system for protecting reusable software components</u>
<u>US5347579</u>	9 /1994	Blandford		<u>Personal computer diary</u>
<u>US5351293</u>	9 /1994	Michener et al.	Wave Systems Corp.	<u>System method and apparatus for authenticating an encrypted signal</u>
<u>US5355474</u>	10 /1994	Thuraisingham et al.		<u>System for multilevel secure database management using a knowledge base with release-based and other security constraints for query, response and update modification</u>
<u>US5373561</u>	12 /1994	Haber et al.	Bell Communications Research, Inc.	<u>Method of extending the validity of a cryptographic certificate</u>
<u>US5390247</u>	2 /1995	Fischer		<u>Method and apparatus for creating, supporting, and using travelling programs</u>
<u>US5390330</u>	2 /1995	Talati		<u>Control system and method for direct execution of software application information models without code generation</u>
<u>US5392220</u>	2 /1995	van den	U.S. Philips	<u>Method and system for</u>

<u>US5392220</u>	2 /1995	van den Hamer et al.	U.S. Philips Corporation	organizing data
<u>US5392390</u>	2 /1995	Crozier	IntelliLink Corp.	Method for mapping, translating, and dynamically reconciling data between disparate computer platforms
<u>US5394469</u>	2 /1995	Nagel et al.	Infosafe Systems, Inc.	Method and apparatus for retrieving secure information from mass storage media
<u>US5410598</u>	4 /1995	Shear	Electronic Publishing Resources, Inc.	Database usage metering and protection system and method
<u>US5412717</u>	5 /1995	Fischer		Computer system security method and apparatus having program authorization information data structures
<u>US5421006</u>	5 /1995	Jablon	Compaq Computer Corp.	Method and apparatus for assessing integrity of computer system software
<u>US5422953</u>	6 /1995	Fischer		Personal date/time notary device
<u>US5428606</u>	6 /1995	Moskowitz		Digital information commodities exchange
<u>US5438508</u>	8 /1995	Wyman	Digital Equipment Corporation	License document interchange format for license management system
<u>US5442645</u>	8 /1995	Ugon	Bull CP8	Method for checking the integrity of a program or data, and apparatus for implementing this method
<u>US5444779</u>	8 /1995	Daniele	Xerox Corporation	Electronic copyright royalty accounting system using glyphs
<u>US5449895</u>	9 /1995	Hecht et al.	Xerox Corporation	Explicit synchronization for self-clocking glyph codes
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<u>US5450493</u>	9 /1995	Maher	AT&T Corp.	Secure communication method and apparatus
<u>US5453601</u>	9 /1995	Rosen	Citibank, N.A.	Electronic-monetary system
<u>US5453605</u>	9 /1995	Hecht et al.	Xerox Corporation	Global addressability for self-clocking glyph codes
<u>US5455407</u>	10 /1995	Rosen	Citibank, N.A.	Electronic-monetary system
<u>US5455861</u>	10 /1995	Faucher et al.	AT&T Corp.	Secure telecommunications
<u>US5455953</u>	10 /1995	Russell	Wang Laboratories, Inc.	Authorization system for obtaining in single step both identification and access rights of client to server directly from encrypted authorization ticket
<u>US5457736</u>	10 /1995	Dolphin	U S WEST Technologies, Inc.	System and method for providing microcellular personal communications services (PCS) utilizing

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US5463565	10 /1995	Cookson et al.	Time Warner Entertainment Co., L.P.	Data block format for software carrier and player therefor
US5473687	12 /1995	Lipscomb et al.	Infosafe Systems, Inc.	Method for retrieving secure information from a database
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US5497479	3 /1996	Hornbuckle	SofTel, Inc.	Method and apparatus for remotely controlling and monitoring the use of computer software
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US5499298	3 /1996	Narasimhalu et al.	National University of Singapore	Controlled dissemination of digital information
US5504757	4 /1996	Cook et al.	International Business Machines Corporation	Method for selecting transmission speeds for transmitting data packets over a serial bus
US5504818	4 /1996	Okano		Information processing system using error-correcting codes and cryptography
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CLAIMS:
[Hide claims]:

We claim:

1. A process which takes place in an apparatus including a secure processing unit, comprising the following steps:

- accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly, at least one of said elements including at least some executable programming;
- using said information to identify and locate said one or more elements;
 - said step of identifying and locating one or more elements includes locating one or more load modules, said load module(s) locating step comprising:
 - searching in at least one memory of said secure processing unit to determine whether at least one of said one or more load modules is located in said memory;
 - if at least one of said one or more load modules is located in a memory of said secure processing unit, loading and using said load module without decrypting said load module; and
 - if at least one of said one or more load modules is located outside of a memory of said secure processing unit, decrypting said load module prior to use of said load module;
- accessing said located one or more elements;
- securely assembling said one or more elements to form at least a portion of said first component assembly; and
- executing at least some of said executable programming.

2. A process as in claim 1 in which at least one memory of said secure processing unit contains at least one load module relating to a budget method.

3. A process as in claim 1 in which at least one memory of said secure processing unit contains at least one load module relating to a billing method.

4. A process as in claim 1 in which at least one memory of said secure processing unit contains at least one load module relating to an audit method.

5. A process as in claim 1 in which at least one memory of said secure processing unit contains at least one load module relating to an aggregate method comprising budgeting, billing and auditing functions.

6. A process comprising the following steps:

- accessing a first record containing information directly or

- accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly,
 - at least one of said elements including at least some executable programming,
 - at least one of said elements constituting a load module,
 - said load module including executable programming and a header;
 - at least a portion of said header is a public portion which is characterized by a relatively lower level of security protection; and
 - at least a portion of said header is a private portion which is characterized, at least some of the time, by a level of security protection which is relatively higher than said relatively lower level of security protection,
- using said information to identify and locate said one or more elements;
- accessing said located one or more elements;
- securely assembling said one or more elements to form at least a portion of said first component assembly;
- executing at least some of said executable programming; and
- checking said record for validity prior to performing said executing step.

7. A process as in claim 6 in which:

- said relatively lower level of security protection comprises storing said public header portion in an unencrypted state; and
- said relatively higher level of security protection comprises storing said private header portion in an encrypted state.

8. A process comprising the following steps:

- accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly,
- at least one of said elements including at least some executable programming,
- at least one of said elements constituting a load module,
 - said load module including executable programming and a header;
 - said header including an execution space identifier identifying at least one aspect of an execution space required for use and/or execution of the load module associated with said header;

said execution space identifier provides the capability for distinguishing between execution spaces providing a higher level of security and execution spaces providing a lower level of security;

- using said information to identify and locate said one or more elements;
- accessing said located one or more elements;
- securely assembling said one or more elements to form at least a portion of said first component assembly;
- executing at least some of said executable programming; and
- checking said record for validity prior to performing said executing step.

9. A process as in claim 8 in which said execution space providing a higher level of security comprises a secure processing environment.

10. A process as in claim 9 in which said secure processing environment contains at least one secure processing unit.

11. A process as in claim 10 in which said execution space providing a lower level of security comprises a host event processing environment.

12. A process as in claim 11 in which said host event processing environment does not contain a secure processing unit.

13. A process as in claim 8 further comprising:

- comparing said execution space identifier against information identifying the execution space in which said executing step is to occur; and
- taking an action if said execution space identifier requires an execution space with a security level higher than that of the execution space in which said executing step is to occur.

14. A process as in claim 13 in which said action includes terminating said process prior to said executing step.

15. A process as in claim 14 in which said action includes failing to include said load module in said component assembly.

16. A process as in claim 15 further comprising:

- following said action, attempting to locate a second load module, incorporating a second execution space identifier, for inclusion in said component assembly.

17. A process as in claim 6 in which:

- said private header portion includes a check value calculated based on the contents of said public portion; and
- said process further includes the step of using said check value to determine whether said public portion has been altered or replaced in an unauthorized manner.

18. A process as in claim 6 in which said private header portion includes one or more tags.

19. A process as in claim 18 in which at least one of said tags comprises an access tag.

20. A process as in claim 19 further comprising:

- checking said access tag at some point before said execution step, in order to determine if use of said load module will be allowed.

21. A process as in claim 6 in which said private header portion includes one or more digital signatures.

22. A process as in claim 21 further comprising:

- checking said digital signature at some point before said executing step; and
- taking at least one action depending on the outcome of said checking step.

23. A process as in claim 22 in which said at least one action includes terminating said process prior to said executing step.

24. A process as in claim 22 in which said at least one action includes allowing said executing step to proceed.

25. A process as in claim 22 in which:

- said at least one action includes replacing the load module containing said digital signature with a second load module, and
- said process further includes incorporating said second load module into said component assembly.

26. A process as in claim 22 in which said digital signature checking step includes identifying the creator of said digital signature.

27. A process as in claim 6 in which said private header portion includes at least one check value representing at least one aspect of the state of said load module.

28. A process as in claim 27 further comprising:

- comparing said check value to an expected value; and
- taking at least one action based on the results of said comparison.

29. A process as in claim 28 in which said at least one action includes terminating said process prior to said executing step.

30. A process as in claim 28 in which:

- said load module comprises a first load module;
- at least one action includes accessing a second load module; and
- said securely assembling step comprises assembling said component assembly using said second load module but not said first load module.

31. A process comprising the following steps:

- accessing a first record containing information directly or indirectly identifying one or more elements of a first component assembly,
 - at least one of said elements including at least some executable programming consisting of at least two code segments;
 - a first of said code segments being written in a first programming language; and
 - a second of said code segments being written in a second programming language different from said first programming language,
 - at least one of said elements constituting a load module, said load module including executable programming;
- using said information to identify and locate said one or more elements;
- accessing said located one or more elements;
- securely assembling said one or more elements to form at least a portion of said first component assembly;
 - choosing said first code segment for inclusion in said component assembly;
 - including said first code segment in said component assembly; and
 - excluding said second code segment from said component assembly;
- executing at least some of said first code segment executable programming; and
- checking said record for validity prior to performing said executing step.

32. A process as in claim 31, in which:

- said executing step takes place in a processing environment; and
- said choosing step includes identifying said first code segment as being more suited for execution at said processing environment than said second code segment.

33. A process as in claim 32 in which said step of identifying said first code segment as being more suited is based at least in part on the programming language in which said first code segment is written.

34. A process comprising the following steps:

- at a first processing environment receiving a first record from a second processing environment remote from said first processing environment;
 - said first record containing identification information directly or indirectly identifying one or more elements of a component assembly;
 - at least one of said elements including at least some executable programming;
 - a first of said elements being designed to carry out or participate in metering of user activities;
 - a second of said elements being designed to carry out or participate in budgeting functions said second element specifying a credit method;
 - said component assembly allowing access to or use of specified information;
- accessing said first record;
- using said identification information to identify and locate said one or more elements;
 - said element locating step including locating said first element at said second processing environment and locating said second element at a third processing environment located remotely from said first processing environment and said second processing environment;
- accessing said located one or more elements;
 - said element accessing step including retrieving said first element from said second processing environment and retrieving said second element from said third processing environment;
- securely assembling said one or more elements to form at least a portion of said component assembly specified by said first record; and
- executing at least some of said executable programming,
- said executing step taking place at said first processing environment;
- said executing step including metering use of said specified information, using said first element.

35. A process comprising the following steps:

- at a first processing environment receiving a first record from a second processing environment remote from said first processing environment;
 - said first record being received in a secure container;
 - said first record containing identification information directly or indirectly identifying one or more elements of a first component assembly;

- of a first component assembly;
 - at least one of said elements including at least some executable programming;
 - said component assembly allowing access to or use of specified information;
- said secure container also including a first of said elements;
- accessing said first record;
- using said identification information to identify and locate said one or more elements;
 - said locating step including locating a second of said elements at a third processing environment located remotely from said first processing environment and said second processing environment;
- accessing said located one or more elements;
 - said element accessing step including retrieving said second element from said third processing environment;
- securely assembling said one or more elements to form at least a portion of said first component assembly specified by said first record; and
- executing at least some of said executable programming,
 - said executing step taking place at said first processing environment.

36. A process as in claim 35 in which:

- said first element comprises a metering method; and
- said executing step includes using said first element to meter use of said specified information.

37. A process as in claim 36 in which:

- said second element comprises a credit method; and
- said executing step includes charging against credit supplied by said credit method in return for use of said specified information.

38. A process comprising the following steps:

- creating an initial channel;
- after creation of said initial channel, creating a first channel;
 - said initial channel allocating said first channel to handle a first component assembly;
- accessing a first record containing information directly or indirectly identifying one or more elements of said first component assembly, at least one of said elements including at least some executable programming;
- using said information to identify and locate said one or more elements;
- accessing said located one or more elements;
- within said first channel, securely assembling said one or more elements to form at least a portion of said first component assembly; and
- executing at least some of said executable programming.

39. A process as in claim 38 in which said step of said initial channel allocating said first channel includes:

- making, with said initial channel, one or more calls to a secure database manager; and

- returning, from said secure database manager, a channel blueprint from a secure database.

40. A process as in claim 39 in which said step of creating a first channel is based at least in part on said channel blueprint.

41. A process as in claim 40 in which:

- said channel blueprint includes at least one tag; and
- said step of creating a first channel includes checking said tag to determine the validity or suitability of said channel blueprint.

42. A process as in claim 41 in which said first channel includes a channel header.

43. A process as in claim 42 in which said step of creating a first channel includes incorporating information into said first channel header.

44. A process as in claim 43 in which said incorporated information includes user identification information.

45. A process as in claim 44 in which said incorporated information includes object identification information.

46. A process as in claim 45 in which said incorporated information includes a reference to the type of function to be processed by said first channel.

47. A process as in claim 46 in which said step of creating a first channel includes:

- accessing a control method; and
- binding said control method to said first channel.

48. A process as in claim 47 in which said assembling step includes binding at least one of said elements to said first channel.

49. A process as in claim 48 in which said assembling step includes said control method obtaining memory allocations required for said executing step.

50. A process as in claim 49 in which said step of accessing said one or more located elements includes accessing, with said control method, at least one of said elements from a secure database.

51. A process as in claim 50 in which said step of assembling includes calling, with said control method, an encryption manager to decrypt at least one of said elements.

52. A process as in claim 51 in which said step of assembling includes calling a tag manager with said control method, and comparing, with said tag manager, a tag contained in one of said elements with an expected value or range of values.

53. A process as in claim 52 in which:

- said first channel further includes an event queue;
- said method further comprising writing at least one event into said event queue.

54. A load module comprising:

- a load module header including a public portion and a private portion:
 - said public portion including identification information;
 - said private portion including at least one correlation tag;
 - said correlation tag including information used to determine whether a method has authorization to call or load the load module; and
- a load module body including:

- executable programming which calls or includes:
 - programming which controls at least one aspect of use of at least one file, said programming calling or including programming which provides information relating to the user of said file to an external site;

said programming providing information provides such information in a summary fashion which does not include information deemed confidential by said user; and

- a reference to data;
 - at least some of said data being associated with or used by said executable programming.

55. An operating system comprising:

- component assembling programming which assembles a plurality of elements into a component, said component assembling programming including:
 - validation programming used to validate said elements, said validation programming including:
 - tag checking programming used to check the identity, validity or integrity of elements by comparing tags incorporated in said elements to expected values; and
 - element identification and referencing programming; and
- an object switch which controls and communicates objects, said object switch including:
 - a stream router;
 - one or more stream interfaces;
 - a container manager used to manage secure containers;
 - said container manager contains programming which recognizes secure containers and performs operations on said secure containers;
 - buffering and storage programming; and
 - an object switch interface.

56. An operating system as in claim 55, in which:

- said operations include:
 - constructing secure containers;
 - opening secure containers; and
 - routing secure containers.

57. A component assembly comprising:

- a first load module and a second load module, each load module comprising;
- a load module header, made up of a public portion and a private portion;
 - said public portion including identification information;
 - said private portion including at least one correlation tag;
 - said correlation tag including information used to determine whether a method has authorization to call or load the load module; and

- a load module body, including:
 - executable programming which calls or includes:
 - programming which controls at least one aspect of use of at least one file,
 - said programming controlling at least one aspect of use of at least one file calls or includes programming which provides information relating to the user of said file to an external site;

said programming providing information provides such information in a summary fashion which does not include information deemed confidential by said user; and

- a reference to data;
 - at least some of said data being associated with or used by said executable programming.

58. A component assembly comprising:

- a first load module received from a first source and a second load module received from a second source remote from said first source, each load module comprising:
 - a load module header, made up of a public portion and a private portion;
 - said public portion including identification information;
 - said private portion including at least one correlation tag;
 - said correlation tag including information used to determine whether a method has authorization to call or load the load module; and
- a load module body, including:
 - executable programming; and
 - a reference to data;
 - at least some of said data being associated with or used by said executable programming.

This is a divisional of Ser. No. 08/388,107, filed Feb. 13, 1995, abandoned.

Background/Summary:

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Drawing

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Descriptions:

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Description of Preferred

Embodiments:

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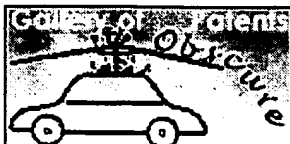
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